

## Case 2579

***Desorella* Cotteau, 1855 (Echinodermata, Echinoidea): proposed confirmation of *Hyboclypus elatus* Desor, 1847 as type species**

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**Abstract.** The purpose of this application is to confirm *Hyboclypus elatus* Desor, 1847 as the nominal type species of *Desorella* Cotteau, 1855. The original publication defining the Jurassic echinoid genus *Desorella* did not explicitly designate a type species. There is an indication that *D. icaunensis* Cotteau, 1855 was intended, but this conflicts with Cotteau's later (1873) choice of *D. elata* (Desor, 1847) and with general usage.

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1. In 1855 Cotteau founded the echinoid genus *Desoria* to accommodate five species: four described from the late Jurassic (Corallian: now within the Oxfordian Stage) of the Yonne district of France (*Hyboclypus elatus* Desor, 1847; *Desoria icaunensis* Cotteau, 1855; *D. orbignyana* Cotteau, 1855; *D. drogiaca* Cotteau, 1855), plus one species from the early Cretaceous (Neocomian) of Switzerland (*Nucleopygus incisus* Agassiz, 1840).

2. The precise date of foundation is now uncertain. Cotteau published identical text and illustrations almost simultaneously in two different ways:

(i) as one (Cotteau, 1855a) of a series of articles on Yonne Jurassic fossil echinoids, published intermittently in the bulletin of the local natural history society over the years 1850–1856 (see Weisbord, 1971, p. 64 for full list of articles);

(ii) as part of a single monograph (Cotteau, 1855b, in Cotteau, 1849–56) which provides a comprehensive account of the fossil echinoids of the Yonne Jurassic as then known.

3. If they were not simultaneous, presumably the date of publication of (i) preceded that of (ii) rather than vice-versa, but this is now not clear. The only difference between the two is the pagination. Cotteau in later works (1855c; 1873) consistently cited only (ii) without reference to (i), and he has been followed in this by later authors (e.g. Lambert & Thiéry, 1909–25; Wagner & Durham, 1966b).

4. The precise date of first publication of the name *Desoria* is not, however, of great significance, for Cotteau quickly (1855c, p. 710) realised that the name *Desoria* was preoccupied by an insect name (presumably *Desoria* Nicolet, 1842, as stated by Lambert & Thiéry (1909–25) and Wagner & Durham (1966b), although not explicitly stated by Cotteau (1855c)). The name would in any case have been preoccupied by that of *Desoria* Gray, 1851 (a spatangoid echinoid, for which the replacement name *Protenaster* was founded by Pomel (1883)).

5. Cotteau (1855c, p. 710) therefore founded the name *Desorella* Cotteau, 1855 as a replacement name for *Desoria* Cotteau, 1855, and *Desorella* rather than *Desoria* was given in the table of echinoid genera and species which appeared as an index at the end

of his accounts of Yonne Jurassic echinoids (1849–56, p. 344; 1856, p. 76). The 1855 date is now widely accepted despite the explicit citation by Lambert & Thiéry (1909–25, p. 585) of 1856.

6. Apart from the new name, *Desorella*, and the inclusion of a description of *D. incisa*, Cotteau's (1855c) account of the assigned species differs little from those given in his other two near-contemporaneous publications (1855a,b). It is arguable whether or not he defined a type species 'by original designation' in the strict sense. In his introductory remarks to the genus, Cotteau (1855a, p. 11; 1855b, p. 221) distinguished two forms amongst his assigned species: one 'allongée, ovoïde, renflé et très-voisine des Pyrines', another with 'caractères qui tendraient à les rapprocher des Hyboclypus'. Without giving any name, he stated the elongate species to be 'celle qui nous a servi de type'. Mention of a particular structure as 'type' or 'typical' of a genus does not constitute designation under Art. 67c (2) of the Code. However, in 1855c (p. 711), if not 1855a,b, Cotteau actually names *D. icaunensis* and *D. incisa* (in that order) as the two species 'très voisines des Pyrines'. *D. icaunensis* Cotteau, 1855 is consistently described first of all the assigned species in each of Cotteau's (1855a,b,c) accounts and is the only one of the (1855a,b) assigned species in which the term 'elongata' appears in the diagnosis. *D. incisa* (Agassiz, 1840) was not recorded from the Yonne Jurassic, so although cited in discussion by Cotteau (1855a,b) it was not actually described by him until later (1855c, p. 715). It seems clear that Cotteau originally regarded either *D. icaunensis* or *D. incisa* as the type species for his genus *Desorella*, and of these two almost certainly *D. icaunensis*. However, any ambiguity in the original intent is resolved by Cotteau himself (1862, p. 69, in Cotteau, 1858–80), who refers, in discussion of the new species *Desorella guerangeri* from the Middle Jurassic (Bathonian) of France (a species later made the type of the genus *Pyrinodia* Pomel, 1883), to '*Des. icaunensis*, qui avait servi de type à notre genre'.

7. To establish *D. icaunensis* as the type species for *Desorella* Cotteau, 1855 would destabilise and complicate echinoid nomenclature. As early as 1857 Desor (1855–58) excluded both *D. icaunensis* and *D. incisa* from *Desorella*, retaining only *D. elata*, *D. orbignyana* and *D. drogiaca*. Desor & de Loriol (1871, p. 287) redescribed *D. icaunensis* as a member of the genus *Pyrina* Desmoulins, 1835, a revision accepted by Cotteau (1873, p. 396, in Cotteau, 1867–74). Pomel (1883, p. 54) subsequently made *D. icaunensis* the type of his new genus *Pygopyrina*, a genus now widely accepted and currently (Wagner & Durham, 1966a, p. U445) classified as a member of the order Holecypoida, suborder Echinoneina. To establish *D. icaunensis* as the type species for *Desorella* Cotteau, 1855 would make *Pygopyrina* Pomel, 1883 a junior objective synonym, and so necessitate the use of the name *Desorella* for species of holecypoid echinoids (of superorder Eognathostomata Smith, 1981) in contrast to its consistent use since 1873 for echinoid species more closely associated (Mortensen, 1948) with the order Cassiduloida (i.e. within superorder Microstomata Smith, 1984). The species consistently included in *Desorella* would require a new generic name.

8. Zoology is best served by disregarding as non-rigorous the indications of Cotteau (1855a,b,c; 1862) with respect to type species, and applying Art. 69 of the Code ('type species not fixed in the original publication'). In this case, *D. elata* (Desor, 1847) would become type species by the subsequent designation of Cotteau (1873, p. 333 in Cotteau, 1867–74). It is the only one of the five originally assigned species to be retained in *Desorella* by Cotteau (1873). 'Elimination of all but one of the originally included

nominal species from a nominal genus does not in itself constitute type fixation' (Art. 69b of the Code), but Cotteau's listing of *D. elata* as the type is clear. *D. elata* has consistently been accepted as the type species for *Desorella* Cotteau, 1855 (e.g. Lambert & Thiéry, 1909–25, p. 327; Mortensen, 1948, p. 111; Wagner & Durham, 1966b, p. U631).

9. Cotteau (1855a,b,c; 1873) identified his Yonne specimens with *Hyboclypus elatus* Desor, 1847 by comparing them with a plaster cast of the holotype, specimen V.7 of the Neuchâtel Museum. In accordance with Art. 70 of the Code, since Cotteau (1855a,b) included *D. elata* as 'an already established nominal species in a new nominal genus . . . , it is to be assumed that the author has identified the species correctly'.

10. Desor (in Agassiz & Desor, 1847, p. 94) in the original description of *Hyboclypus elatus* gave an uncertain origin for the type specimen: 'Ool. inf.? des environs de Nancy' (= early Middle Jurassic). Cotteau (1873, p. 388) comments that Desor's record may be in error. All other published records of *D. elata* are from rocks of Corallian age (Late Jurassic: Oxfordian Stage).

11. The type is an internal mould, lacking the test. Other specimens of *D. elata* are reported by Cotteau (1873, p. 388) to be 'assez abondant' but from very few localities. Almost all of them are internal moulds collected from the surface of ploughed fields in the Yonne district of France. Exceptions to this rule are two specimens from the Corallian of Upware in Cambridgeshire, the only specimens known from England and the only known ones with test material preserved. Description of one of these (Woods, 1904, p. 480) provides the fullest description to date of *D. elata*, and consequently of the genus *Desorella*.

12. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to confirm that the type species of the nominal genus *Desorella* Cotteau, 1855, is *Hyboclypus elatus* Desor, 1847 by subsequent designation by Cotteau, 1873;
- (2) to place on the Official List of Generic Names in Zoology the name *Desorella* Cotteau, 1855 (gender: feminine), type species by subsequent designation by Cotteau, 1873, *Hyboclypus elatus* Desor, 1847;
- (3) to place on the Official List of Specific Names in Zoology the name *elatus* Desor, 1847, as published in the binomen *Hyboclypus elatus* (specific name of the type species of *Desorella* Cotteau, 1855).

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